CLAIMS

What is claimed is:

1.   A modem interface for transferring data between a high data rate interface and a wireless interface, the modem interface comprising:

a plurality of parallel data highways having frames with time slots for transferring data, the plurality of data highways outputting data to the high data rate interface and the wireless interface in selected time slots;

at least one of the data highways having an input configured to receive data from the high data rate interface in selected time slots;

at least one of the data highways having an input configured to receive data from the wireless interface in selected time slots; and

a processor for controlling data transfer between the plurality of data highways.

2.   The modem interface of claim 1 wherein the high data rate interface is an IOM-2 highway.

3.   The modem interface of claim 1 wherein the high data rate interface is a PCM highway.

4.   The modem interface of claim 1 wherein the plurality of parallel data highways is three parallel data highways.

5.   The modem interface of claim 4 wherein each of the three parallel data highways has a 2 Mbs data rate.

6.   The modem interface of claim 1 further comprising a plurality of read and write devices, each write device fixedly writes to one of the plurality of data highways and each read device is capable of reading data from any of the plurality of data highways.

7.   The modem interface of claim 6 wherein the processor controls each read device so that that read device reads from a selected one of the data highways.

8.   The modem interface of claim 1 wherein the frames have sixteen time slots.

9.   A method for transferring data between a high data rate interface and a wireless interface, the method comprising:

    providing a plurality of parallel data highways having frames with time slots for transferring data;

    inputting data to the data highways from the high data rate interface and the wireless interface in selected time slots;

    controlling data transfer between the plurality of highways; and

    outputting data to the high data rate interface and the wireless interface in selected time slots.

10.   The method of claim 9 wherein the high data rate interface is an IOM-2 highway.

11.   The method of claim 9 wherein the high data rate interface is a PCM highway.

12.   The method of claim 9 wherein the plurality of parallel data highways is three parallel data highways.

13.   The method of claim 9 wherein each of the three parallel data highways has a 2 Mbs data rate.

14.   The method of claim 9 wherein the data transfer is controlled using a plurality of read and write devices, each write device fixedly writes to one of the plurality of data highways and each read device is capable of reading data from any of the plurality of data highways.

15.   A radio network terminal (RNT) transferring data between a high data rate interface and a wireless interface, the RNT comprising:

a receiver and a transmitter for transferring data over the wireless interface;

an input and output for transferring data over the high data rate interface;

a plurality of parallel data highways having frames with time slots for transferring data, the plurality of data highways outputting data to the high data rate interface and the wireless interface in selected time slots;

at least one of the data highways having an input configured to receive data from the high data rate interface in selected time slots;

at least one of the data highways having an input configured to receive data from the wireless interface in selected time slots; and

a processor for controlling data transfer between the plurality of highways.

16.   The RNT of claim 15 wherein the receiver and transmitter transfer data using QPSK modulation in CDMA format.

17.   The RNT of claim 15 wherein the RNT is operatively couple to an ISDN terminal via the high data rate interface.

18.   The RNT of claim 15 wherein the frames have sixteen time slots.

19.   The RNT of claim 15 wherein the plurality of parallel data highways is three parallel data highways.

20.   The RNT of claim 15 wherein the high data rate highway is an IOM-2 highway.

21.   A method of communicating data over a wireless interface of a wireless communication network having a first and second communication station, the method comprising:

    producing data having a first high-level data link controlling (HDLC) encoding at the first station for transfer over the wireless interface;

    encoding the first HDLC encoded data into a second HDLC format such that the produced data is double HDLC encoded;

    transmitting the double HDLC encoded data over the wireless interface;

    receiving the double HDLC encoded data at the second station; and

    removing the second HDLC encoding to recover the first HDLC encoded data at the second station.

22.   The method of claim 21 wherein the first station is a RNT and the second station is a RCS, further comprising:

prior to producing the first HDLC encoded data, receiving the first HDLC encoded data from an IOM-2 highway.

23.   The method of claim 21 wherein the first station is a RCS and the second station is a RNT, further comprising:

prior to producing the first HDLC encoded data, receiving the first HDLC encoded data from a PCM highway.